

Guide to Test Interpretation

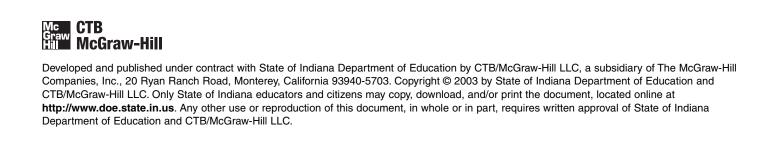
Grade 5 Science

Fall 2003

School Year 2003–2004







A Message from Dr. Suellen Reed

December 2003

Dear Educators:

The *Guide to Test Interpretation* (GTI) provides important information to aid you in interpreting your students' test scores. Greater understanding of the test results will help you better communicate the findings to other educators, parents, students, and community members.

The fall 2003 administration of *ISTEP+* measured the performance of Indiana's Grade 5 students for the first time against Indiana's Academic Standards in science. In addition to distributing parent/student and teacher's editions of these standards, we have provided Curriculum Frameworks to educators to support their classroom activities.

Assessing science achievement is one part of the requirements under the federal No Child Left Behind Act of 2001. The fall 2003 exam will serve as a foundation on which future progress in science achievement will be measured.

Since this is the first state measurement of science achievement, it is especially important that you interpret test data thoroughly and accurately. The *Guide to Test Interpretation* is designed to provide you with a report-by-report explanation of this year's science test results. Students' weaknesses and strengths, as identified by the test results, should serve as the basis for making informed instructional decisions.

ISTEP+ Science results will precipitate a number of activities at the local level. Program evaluations, research-based activities, and a strong communication effort within both your school buildings and school communities can help facilitate improvement. Emphasizing the significance of this data and fostering the involvement of parents and stakeholders in a continuous improvement model will help us move farther and faster toward our education goals.

We expect the *Guide to Test Interpretation* will be helpful to you and will strengthen your knowledge of *ISTEP+* and its results.

Sincerely,

Dr. Suellen Reed

Superintendent of Public Instruction

Dr Spiellen Reed_

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Understanding *ISTEP+* Grade 5 Science Assessment Results

What can you learn from *ISTEP+*?

Taxpayers, parents, and educators ask many questions about instructional programs as Indiana strives to build a brighter future by providing the best possible education for its young people. Questions such as the following are commonly asked:

"Are all of our students attaining the skills they need to succeed?"

"What kind of individual instruction would help my child?"

ISTEP+ provides information that will help you answer such questions and support the instructional choices you make for your students. *ISTEP+* reports can quickly show you the following:

- To what extent an individual student has mastered the Indiana Academic Standards, as established by the State Board of Education for the science content area. (See page 9 for performance level definitions.)
- To what extent the students in your classroom, school, and corporation as a group are attaining mastery of the science Academic Standards.

What is a criterionreferenced score?

Criterion-referenced scores indicate where a student stands in relation to the established Indiana Academic Standards. These scores are developed based on Item Response Theory (see page 8). The most valuable application of criterion-referenced information is to identify a student's strengths and needs and to plan appropriate instruction.

Criterion-referenced scores are presented by Academic Standard within each content area, as follows:

Criterion-Referenced Score Categories			
Domain	Science		
Academic Standard	The Nature of Science and Technology Scientific Thinking		
	: :		

Understanding ISTEP+ Grade 5 Science Assessment Results

Item Response Theory

Item Response Theory (IRT) refers to the theory underlying a family of statistical models. These models describe the behavior of test questions, or items, and examinees. For the *ISTEP+* tests, two models are used. One is used for the multiple-choice items, and another is used for the constructed-response items.

The two models are used in combination with test data to characterize items and generate student scale scores. Both models use the data to determine how difficult each item is and how well each item accurately identifies students who do and do not have the skill being tested by the item. The multiple-choice model also describes the degree to which students can guess the correct answer to each item.

Pattern Scoring

The statistical characteristics of the items can affect a student's total test score (scale score). This is particularly true with *ISTEP+*, because it is pattern scored. Pattern scoring incorporates information from items using the IRT model. In contrast, raw scoring or number-correct scoring simply notes whether or not the student answered the item correctly. Both pattern scores and raw scores can be considered ability scores used to represent a student's ability level. To illustrate the differences between pattern scoring and raw scoring, consider two students, Student 1 and Student 2, who both correctly answer 20 items. Student 1 answers the 20 most difficult items, while Student 2 answers the 20 easiest. With raw scoring, both students receive the same raw (ability) score, indicating both students have the same "ability," and the highest raw score possible is equal to the total number of items on a test. In contrast, when the pattern of the items answered correctly is taken into account—that is, when the information about the difficulty of the items (among other item characteristics) is considered—Student 1 rightly receives a higher ability score.

Scale Scores

When ability scores are placed on a scale different from the raw score or number-correct scale, they are called "scale scores." The ability scores are transformed and placed onto a scale, much like taking a degree of temperature on the Celsius scale and transforming it onto the Fahrenheit scale. How hot or cold the temperature is does not change. What does change is the scale used to describe the temperature. In the same way, ability scores can be described by different scales and still maintain their meaning as an indication of ability.

Understanding ISTEP+ Grade 5 Science Assessment Results

Cut Scores and Performance Levels

New federal legislation, No Child Left Behind, requires that student achievement be reported in terms of at least three performance levels. One of these performance levels is designated as the proficient level. Each state must determine the number of performance levels to use, as well as the meaning associated with those levels. For the Grade 5 Science Assessment, the *ISTEP+* test scale is divided into three performance levels using two cut scores. The cut score is the score that separates the performance levels. Based on their *ISTEP+* scale scores, students are placed into one of three performance levels: Did Not Pass, Pass, and Pass+. For Indiana students, the performance level labeled "Pass" is the proficient level.

Each performance level has a descriptor: a description of what students can do in terms of the content and skills measured by *ISTEP+*. By examining the descriptor for a level in which a student has been placed, teachers, parents/guardians, and the student can gain an understanding of the student's current knowledge of a particular content area. Performance level information can be used to help plan individual instructional goals for the student.

In addition, an Undetermined category is reported for any student whose *ISTEP+* scores for science are incomplete (i.e., all or part of the test was not taken or was considered invalid by the examiner).

Academic Standards Scores

Indiana's Academic Standards are listed by subject on the Student Report, the Class Academic Standards Report, the Academic Standards Summary, and the Group Academic Standards Summary.

The Indiana Performance Index (IPI) is used to indicate a student's performance on the Academic Standards. This is a statistical value that reflects the number of items a student would have answered correctly if the student had responded to 100 similar items for the specific Academic Standard on the test. It is a better measure of the student's performance than a simple percentage of correct answers to a small number of questions.

On the Student Report, next to each Academic Standard, the Student Performance score is shown, along with the Passing Level score for a student at the standard and the difference between the two scores.

The Class Academic Standards Report indicates whether students have mastered each Academic Standard. Symbols appear on this report indicating 1) mastery, 2) non-mastery, and 3) if a subtest was omitted or invalid. Mastery of an Academic Standard indicates that the Student Performance is equal to or greater than the Passing Level for a student at the standard.

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Understanding ISTEP+ Grade 5 Science Assessment Results

The corporation Group Academic Standards Summary provides a summary of students' performance for all schools in the corporation.

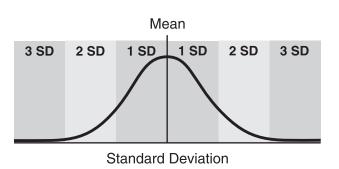
Note: All sample reports shown in this guide contain simulated data only.

Mean and Median Scores

On *ISTEP+* reports, summary information for a group (such as a class) is sometimes presented using mean or median scores. The mean is the average score obtained by adding together all scores in the group and dividing by the number of students in the group. Scores reported on ordinal scales, such as national percentile ranks, cannot be averaged. For these, *ISTEP+* presents a median score. The median is the middle score (50% of the scores fall below it). In a normal distribution, the mean and the median scores are equal.

Standard Deviation

The Standard Deviation (SD) indicates the amount of variability in a group of scores. When scores are normally distributed (i.e., when they are part of a bell-shaped, "normal" curve), about two-thirds of the scores are within one SD above and below the average (mean) score, and about 95% of scores are within two SDs of the mean. In almost any shaped distribution, all scores will be within five standard deviations of the mean score.



ISTEP+ Testing Program

New Reporting for the Grade 5 Science Assessment

The Grade 5 Science Assessment was first field tested in January 2001. The test was put on hold by the State Budget Agency until 2003. The first operational test was administered in September 2003.

Whenever a new test is administered, new cut scores and performance levels must be determined. The cut score setting process was implemented with a diverse committee of educators representing many important groups in Indiana. During this process, participants established cut scores by engaging in a structured conversation that includes discussion of content standards, performance levels, the test, and expectations for student performance.

ISTEP+ Reports for Grade 5 Science

This guide will help you understand *ISTEP+* test results and reports in order to apply the results toward the goal of improving educational opportunities for students. The guide will also help you to be better prepared to answer questions from parents, students, and other members of the educational community regarding *ISTEP+* results. Toward this end, a sample letter to parents is included at the end of this guide for your use.

Each *ISTEP+* report is designed to present clearly the information most useful to you and to parents. The audience for and number of copies of each report are listed in the table on the following page.

Report	Number of Copies
For Teachers	
Student Report	3
Class Proficiency Grouping Report	1
Proficiency Roster	1
Class Academic Standards Report	1
Undetermined Status Roster	2
ISTEP+ Label	1
For School Administrators	
Proficiency Roster	1
School Proficiency Performance Summary	1
Disaggregation Summary Report	1
Applied Skills Frequency Distribution	1
For Corporation Administrators	
Proficiency Roster (school)	1
School Proficiency Performance Summary	1
Corporation Proficiency Performance Summary	2
Disaggregation Summary Report (school)	1
Disaggregation Summary Report (corporation)	2
Academic Standards Summary (corporation)	2
Group Academic Standards Summary (corporation)	2
Applied Skills Frequency Distribution (school/corporation)	1 each
Undetermined Status Roster	1
Academic Standards Frequency Distribution	1

Copies of student answers to the constructed-response items, as they appeared in the Science Assessment forms, will be returned to the teachers for their assistance in reviewing the students' performance. The teacher may use these papers, in conjunction with information in the *Teacher's Scoring Guide*, to assist in further evaluating a student's strengths and needs. Three copies of the Student Report are included in the score report package. One copy is in a folder marked Image Print. This copy is to be used with the student's imaged responses to the Science Assessment.

The *ISTEP+* score reports are packaged by class, school, and corporation, and they are shrink-wrapped to prevent damage during handling. Student reports for Braille tests are shipped separately.

ISTEP+ Testing Program

Before you can interpret and apply the information in the reports, you must understand the meaning of the scores presented. Please review the previous section in this guide, "Understanding *ISTEP+* Grade 5 Science Assessment Results." You will also find a glossary at the end of the guide.

Sample Letter to Parents

To help the teacher explain the *ISTEP+* reports to parents, a sample letter to parents is provided on page 53. You may duplicate or edit the letter to make it appropriate for your use.

Student Report

Page 1 of the Student Report contains student performance data for science. The top section of this report lists a student's scale score and shows whether the student is placed in the Did Not Pass, Pass, or Pass+ performance level. Page 2 contains the student's Applied Skills results. The Student Report presents test information to parents in ways that are easy to understand. It encourages them to discuss their child's strengths and needs and helps them become more involved in the child's learning process. Three copies of this report are provided. Two copies are for school use and one copy is for the parent.

Criterion-Referenced Information

The top section of this report, called "Indiana Academic Standards," reports the student's scale score in science and relates it to the three performance levels (see page 9 for definition) established by the State Board of Education. Students whose scores place them in the Pass or Pass+ performance levels meet the Indiana Academic Standards.

The center section lists the Academic Standards measured by *ISTEP+* for the Science Assessment. Next to each standard, the student's academic performance is indicated by the Student Performance, along with the Passing Level for a student at the standard and the difference between the two scores.

Sample Student Report

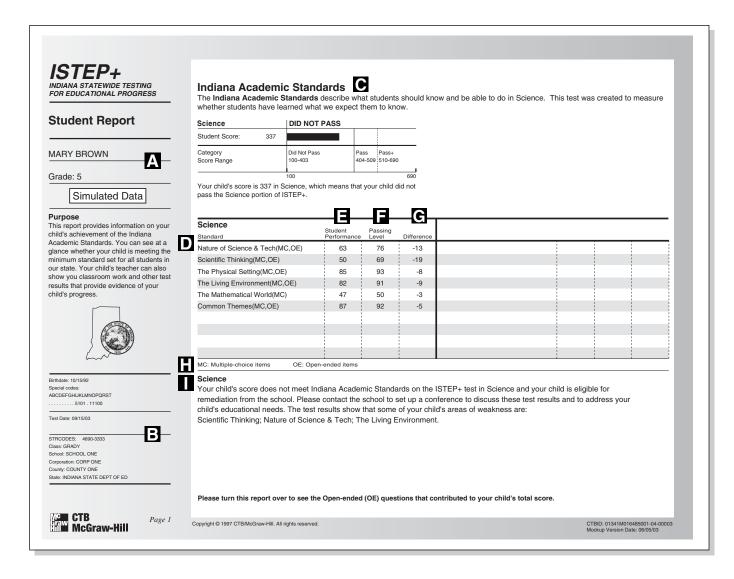
The sample Student Report presents results for Mary Brown. The top section of the report describes Mary's performance as measured against the Indiana Academic Standards, and it shows her achievement as a scale score compared with the three performance levels adopted by the Board of Education.

On the same report, Academic Standards for science are listed. Reading to the right of the first Academic Standard, The Nature of Science and Technology, you will see that Mary achieved a Student Performance score of 63 as compared with the Passing Level score of 76, or 13 points lower than the Passing Level.

Mary's science total score is reported in two ways:

- a scale score of 337 (see performance levels in area C), and
- the Student Performance for each Academic Standard.

This scale score indicates that Mary did not pass the Indiana Academic Standards in science.



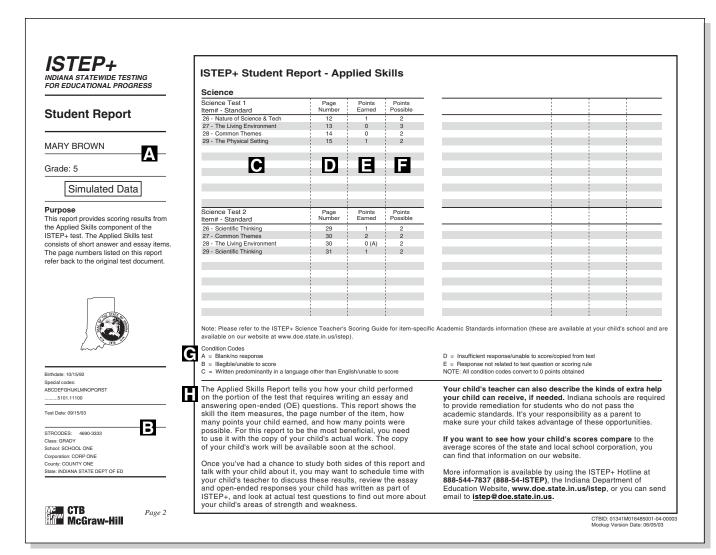
Highlights of the Student Report

- A Identifies the student's name and grade.
- **B** Indicates the test date and identifies the corporation-school number, class, school, corporation, county, and state.
- Explains the student's performance relative to the cut scores established by the Board of Education.
- **D** Lists the Academic Standards.
- **E** Shows the Student Performance on each Academic Standard.
- Indicates the Passing Level for a student meeting the standard for each Academic Standard.
- Shows the difference (+ or –) between the Student Performance and the Passing Level for a student at the standard.
- **H** Defines symbols and acronyms used in this report.
- Lists student's areas of strength and weakness.

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Student Report (Back)

The reverse side (back) of the Student Report lists individual student results for each Applied Skills item by test. It provides the number of points the student earned on each item, as well as the maximum number of points possible. This report is used in conjunction with the *Teacher's Scoring Guide* and the imaged student responses to help the teacher explain the scores and the scoring process. Imaged student responses will be returned to the schools along with the score reports.



Sample Student Report (Back)

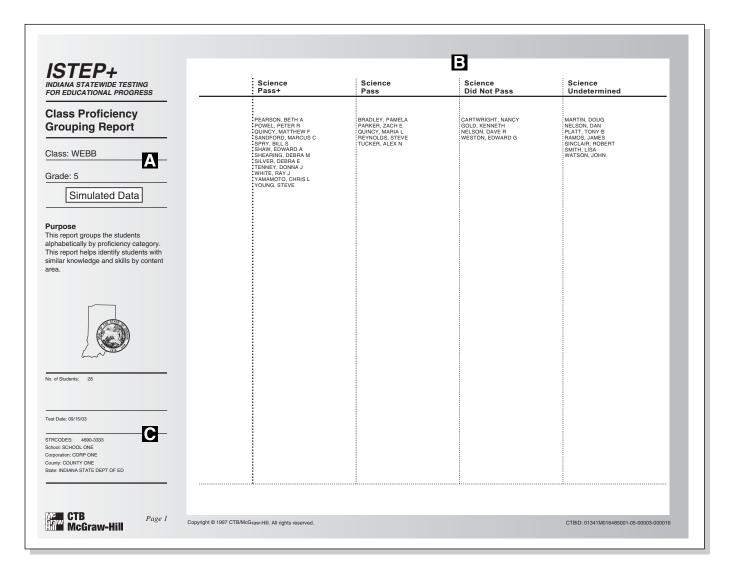
The sample Student Report (Back) provides test results for Mary Brown. Under Science, Test 1, one can observe that item number 26 of this test is located on page 12 of the test book and that Mary scored one point out of two points possible for this item.

Highlights of the Student Report (Back)

- A Identifies the student's name and grade.
- **B** Indicates the test date and identifies the corporation-school number, class, school, corporation, county, and state.
- C Lists each item and its Academic Standard by test.
- **D** Indicates the page number on which the item appears in the test book.
- Presents the number of score points that the student earned for the given Applied Skills item, or, if no score, the letter of the condition code.
- **I** Indicates the number of points possible for the given Applied Skills item.
- **G** Explains condition codes.
- H Provides information for parents.

Class Proficiency Grouping Report

This report groups students according to their performance relative to the cut scores (see page 9 for definition) for the Science Assessment.



Highlights of the Class Proficiency Grouping Report

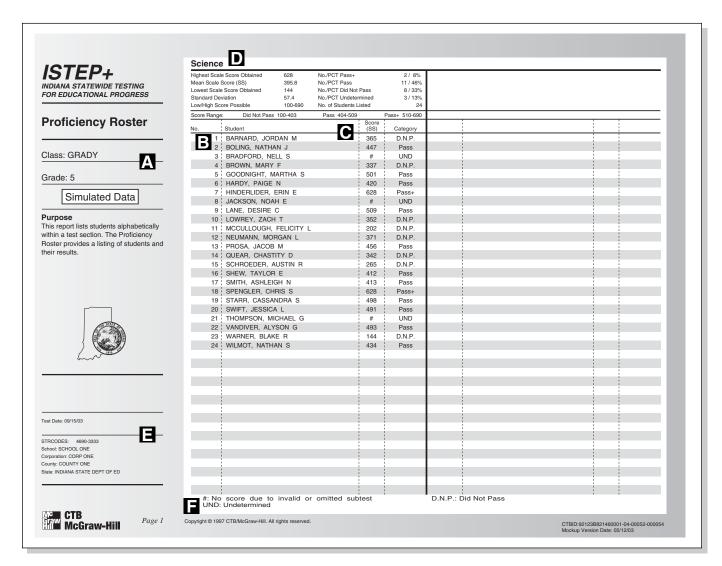
- A Identifies the class by the teacher's name and grade.
- **B** The columns report performance levels. Students are listed alphabetically within the performance levels.
- C Indicates the test date and identifies the corporation-school number, school, corporation, county, and state.

Proficiency Roster

This report lists alphabetically all students in the class and tells the teacher how each student performed on the Science Assessment. Shown next to the performance level is the scale score for each student.

In the upper portion of the report, summary information is given for the class as a whole. This includes the lowest and highest scale scores obtained by the students in the group, class average (mean scale score), the standard deviation, and the lowest and highest possible scores.

The group's performance is also compared to the cut scores to show the number and percentage of students scoring at the Pass+, Pass, and Did Not Pass performance levels.



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Highlights of the Proficiency Roster

- A Identifies the class by the teacher's name and grade.
- **B** Lists students alphabetically within the class.
- **C** Provides each student's scale score and performance level.
- **D** Provides summary information for the class.
- Indicates the test date and identifies the corporation-school number, school, corporation, county, and state.
- **E** Defines the symbols and acronyms used in this report.

Class Academic Standards Report

The Class Academic Standards Report presents Academic Standards information for all the students in your class on a single report. It presents mastery information for each student and summarizes the performance of the class as a whole.

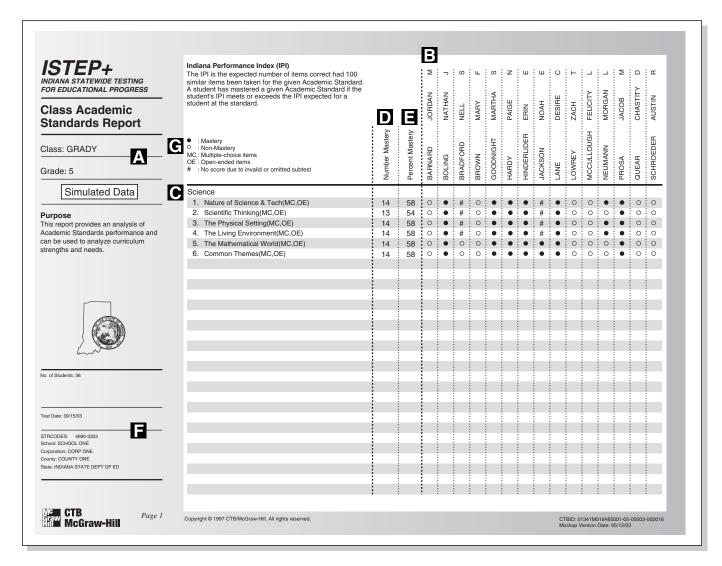
Academic Standards Information

The name of each student in the class appears in alphabetical order across the top of the report. The column below the student's name presents mastery information for that student. The Academic Standards for the grade appear on the left side of the report.

To the right of each Academic Standard the following information appears:

- the number of students who mastered the Academic Standard, and
- the percentage of students who mastered the Academic Standard.

You can use this information to identify areas in which students may need additional instruction.

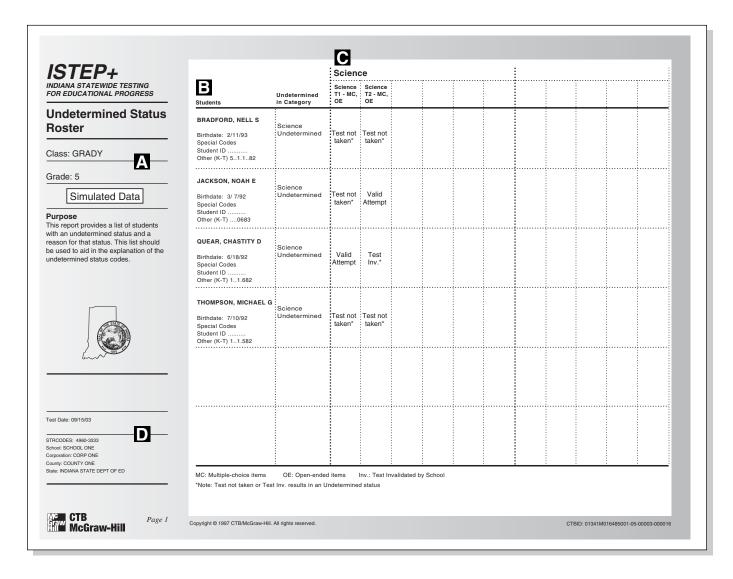


Highlights of the Class Academic Standards Report

- A Identifies the class by the teacher's name and grade.
- **B** Lists students alphabetically by name from left to right.
- C Lists Academic Standards.
- **D** Shows the number of students who mastered each Academic Standard.
- **E** Shows the percentage of students who mastered each Academic Standard.
- Indicates the test date, and identifies the corporation-school number, school, corporation, county, and state.
- **G** Defines the symbols and acronyms used in this report.

Undetermined Status Roster

This report provides a list of all students in the class who have an Undetermined status. Students who fail to complete one or more of the tests are listed as Undetermined. The report indicates whether the test was not taken or was invalidated, thus explaining the reason for the Undetermined status.



Highlights of the Undetermined Status Roster

- A Identifies the class by teacher's name and grade.
- **B** Lists students alphabetically who have an Undetermined status.
- C Indicates which test was invalidated or not completed.
- ☐ Indicates the test date and identifies the corporation-school number, school, corporation, county, and state.

ISTEP+ Label

The *ISTEP+* Label presents an individual student's criterion-referenced test results in a form that you can easily attach to the student's permanent record.

BROWN	MARY F	.			
		-			
		i			
BROWN	MARY F	ISTEP+		 	
OB:	10/15/92	i			SCIENCE
TN:	123456789	1			
RADE:	5	1	PASS CUT SCORE		404
EST DATE:		1	PASS+ CUT SCORE		510
CHOOL:	SCHOOL ONE	1	STUDENT SCORE		337
CORP:	CORP ONE		PROFICIENCY LEVEL		DID NOT PASS

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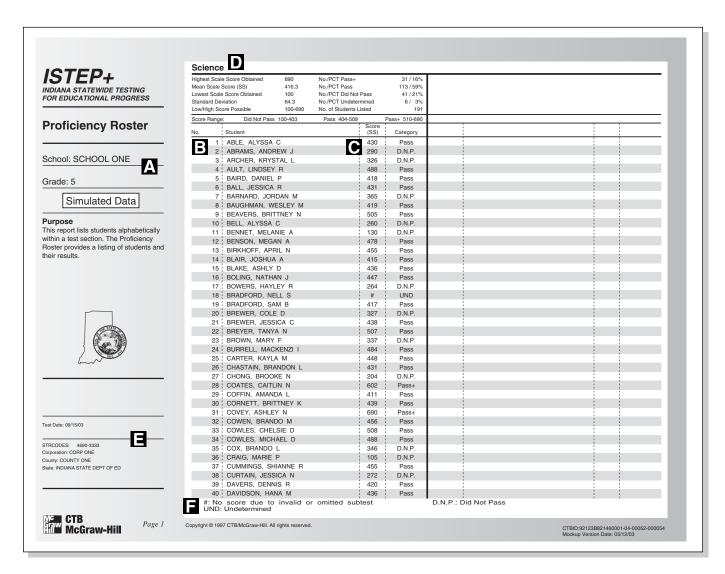
Reports for the School Administrator

Proficiency Roster

This report lists alphabetically all students in the school by grade and tells the principal how each student performed on the Science Assessment. Shown next to the performance level is the scale score for each student.

In the upper portion of the report, summary information is given for the school as a whole. This includes the lowest and highest scale scores obtained by the students in the group, class average (mean scale score), the standard deviation, and the lowest and highest possible scores.

The group's performance is also compared to the cut scores to show the number and percentage of students scoring at the Pass+, Pass, and Did Not Pass performance levels.



Highlights of the Proficiency Roster

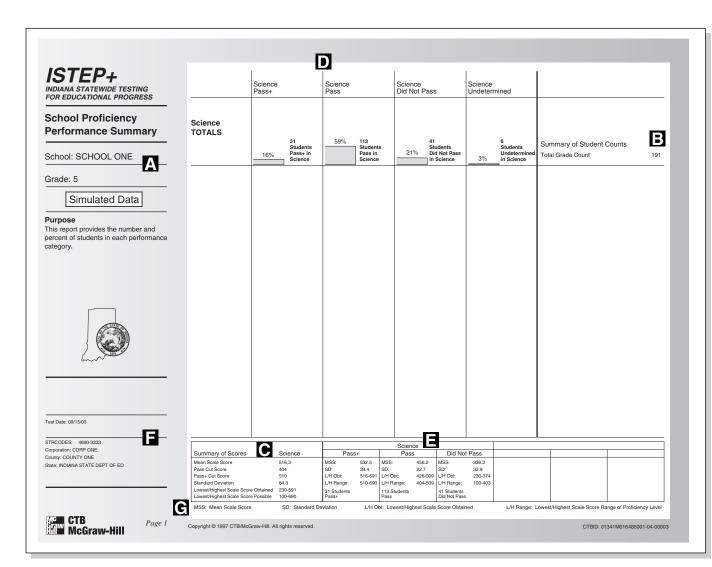
- A Identifies the school and grade.
- **B** Lists students alphabetically within the school for the grade tested.
- **C** Provides each student's scale score and performance level.
- **D** Provides summary information for the school.
- Indicates the test date and identifies the corporation-school number, corporation, county, and state.
- **E** Defines the symbols and acronyms used in this report.

School Proficiency Performance Summary

This report summarizes groups of students according to performance level. Each column provides the number and percentage of students who scored in each performance level.

The section titled "Summary of Student Counts" shows the total number of students taking the Science Assessment and the number with Undetermined status for the assessment.

A section at the bottom of the report called "Summary of Scores" provides school averages, standard deviations, and score ranges. For each of the performance levels Pass+, Pass, and Did Not Pass, the mean scale score, the standard deviation, the lowest and highest scale scores obtained, and the lowest and highest scale scores for each proficiency level are shown.



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Highlights of the School Proficiency Performance Summary

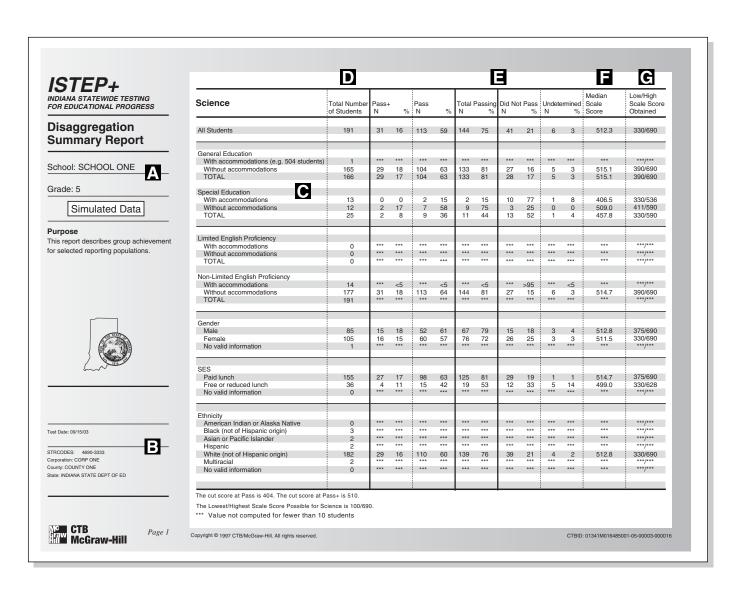
- A Identifies the school and grade.
- **B** Reports the number of students.
- **C** Provides school summary information.
- **D** Reports student performance-level information.
- **E** Provides school summary scores by performance level.
- Indicates the test date and identifies the corporation-school number, corporation, county, and state.
- **G** Defines the acronyms used in this report.

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Reports for the School Administrator

Disaggregation Summary Report

The Disaggregation Summary Report presents the total number of students with scores identified as passing with high achievement (Pass+), passing (Pass), Did Not Pass, and Undetermined. This information is provided for all students, as well as certain subgroups—e.g., special education students with and without accommodations.



Highlights of the Disaggregation Summary Report

- A Identifies the school and grade.
- **B** Indicates the test date and identifies the corporation-school number, corporation, county, and state.
- **C** Identifies the student subgroups.
- **D** Lists the total number of students.
- Indicates the number and percentage of students who obtained Pass+, Pass, or Did Not Pass scores or who were Undetermined. The Total Passing column indicates the total number of students in the Pass+ and Pass columns.
- Indicates the median scale scores. (Not computed for groups with fewer than 10 students.)
- **G** Indicates the lowest and highest scale scores obtained.

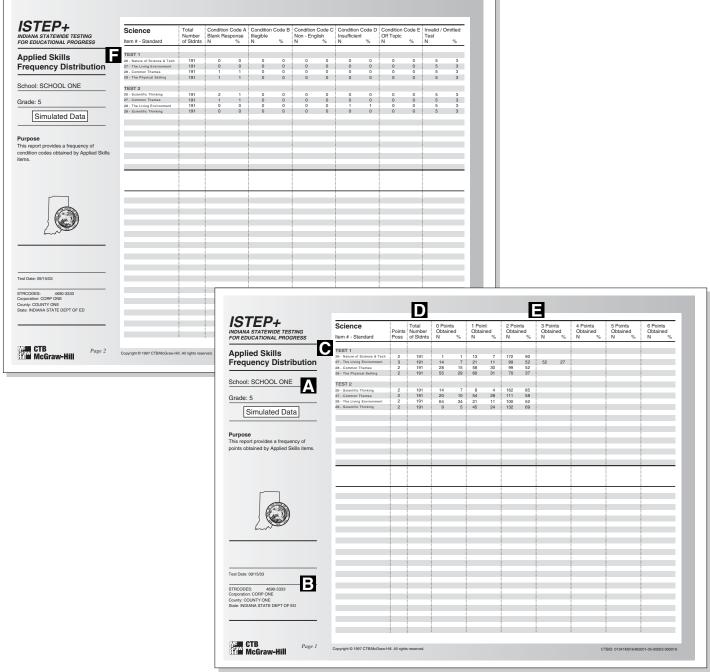
Applied Skills Frequency Distribution

The Applied Skills Frequency Distribution report presents, at the school level, the number and percentage of students who obtained each score point for the individual Applied Skills items. This information can be used to determine if the students in your school show strengths or needs on specific Applied Skills items and, therefore, in the Academic Standards that are assessed by these items.

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Highlights of the Applied Skills Frequency Distribution

- A Identifies the school and grade.
- **B** Indicates the test date and identifies the corporation-school number, corporation, county, and state.
- Identifies the item number and the standard(s) being scored. Descriptions of each item, along with scoring rubrics and standards, are found in the *ISTEP+Teacher's Scoring Guide*.
- **D** Lists the total number of students tested in the school.
- **E** Lists the number and percentage of students obtaining each score point.
- **E** Lists by condition code the number and percentage of students who did not receive a score.

Condition Codes

A = Blank/no response

B = Illegible/unable to score

C = Written predominantly in language other than English/unable to score

D = Insufficient response/unable to score/copied from text

E = Response not related to test question or scoring rule

Note: All condition codes convert to 0 points obtained.

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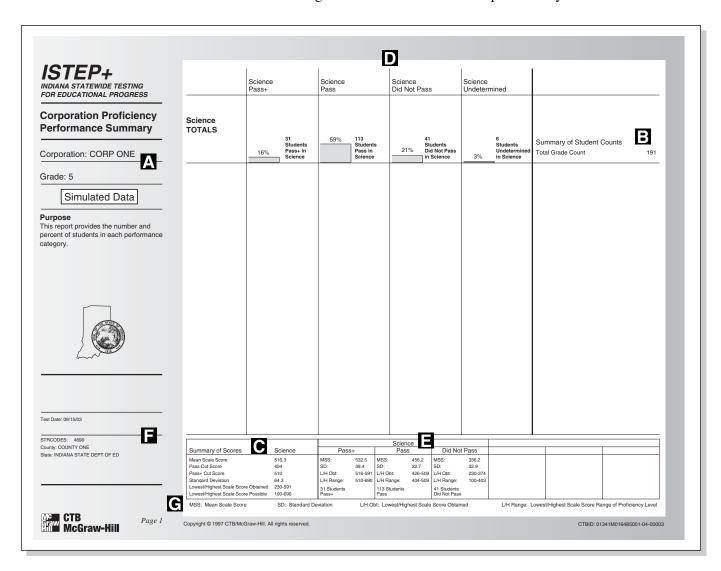
Reports for the Corporation Administrator

Corporation Proficiency Performance Summary

This report summarizes groups of students according to performance level. Each column provides the number and percentage of students who scored in each performance level.

The section titled "Summary of Student Counts" shows the total number of students taking the Science Assessment and the number with Undetermined status for the assessment.

A section at the bottom of the report called "Summary of Scores" provides school averages, standard deviations, and score ranges. For each of the performance levels Pass+, Pass, and Did Not Pass, the mean scale score, the standard deviation, the lowest and highest scale scores obtained, and the lowest and highest scale scores for each proficiency level are shown.

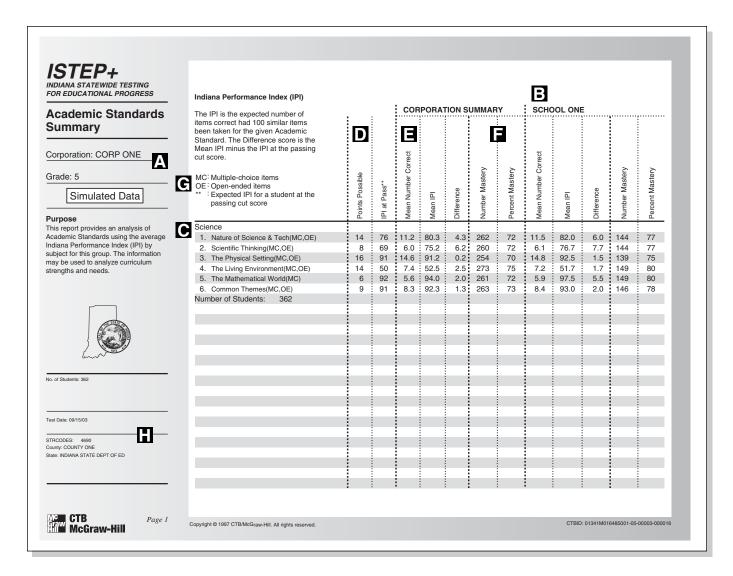


Highlights of the Corporation Proficiency Performance Summary

- A Identifies the corporation and grade.
- **B** Reports the number of students.
- **C** Provides corporation summary information.
- **D** Reports student performance-level information.
- **E** Provides corporation summary scores by performance level.
- Indicates the test date and identifies the corporation number, county, and state.
- **G** Defines the acronyms used in this report.

Academic Standards Summary

The corporation Academic Standards Summary provides criterion-referenced information from the Science Assessment, summarizing the performance of students for an individual school. Schools may contact their Corporation Test Coordinator to request a copy of this report.

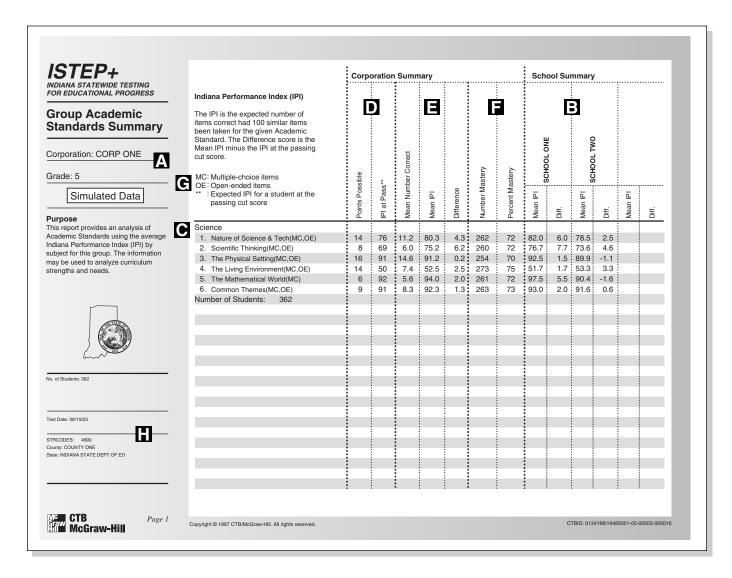


Highlights of the Academic Standards Summary

- A Identifies the corporation and grade.
- **B** Identifies the name of an individual school (one school per page).
- C Lists Academic Standards.
- D Shows the number of score points that assess each Academic Standard and lists the Indiana Performance Index (IPI) at the passing cut score.
- E Lists the mean number of score points obtained by the students in your corporation by grade, the mean IPI obtained by your students, and the difference between the mean and the IPI at the passing cut score.
- Lists the number of students and the percentage of students who obtained mastery of each Academic Standard (achieved an IPI at or above the standard).
- **G** Defines report symbols and acronyms used in this report.
- H Indicates the test date and identifies the corporation number, county, and state.

Group Academic Standards Summary

The corporation Group Academic Standards Summary provides criterion-referenced information from the Science Assessment, summarizing the performance of students for each school. Schools may contact their Corporation Test Coordinator to request a copy of this report.



Highlights of the Group Academic Standards Summary

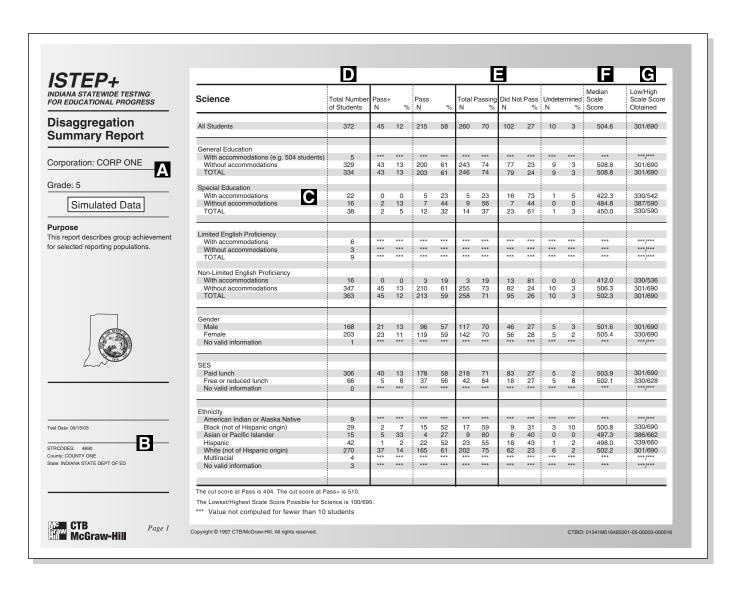
- A Identifies the corporation and grade.
- **B** Lists schools alphabetically by name from left to right.
- C Lists Academic Standards.
- D Shows the number of score points that assess each Academic Standard and lists the expected Indiana Performance Index (IPI) at the passing cut score.
- E Lists the mean number of score points obtained by the students in your corporation by grade, the mean IPI obtained by your students, and the difference between the mean IPI and the IPI at the passing cut score.
- Lists the number of students and the percentage of students who obtained mastery of each Academic Standard (achieved an IPI at or above the standard).
- **G** Defines the report symbols and acronyms used in this report.
- H Indicates the test date and identifies the corporation number, county, and state.

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Reports for the Corporation Administrator

Disaggregation Summary Report

The Disaggregation Summary Report presents, at the corporation level, the total number of students with scores identified as passing with high achievement (Pass+), passing (Pass), Did Not Pass, and Undetermined. This information is provided for all students, as well as for certain subgroups—e.g., special education students with and without accommodations.

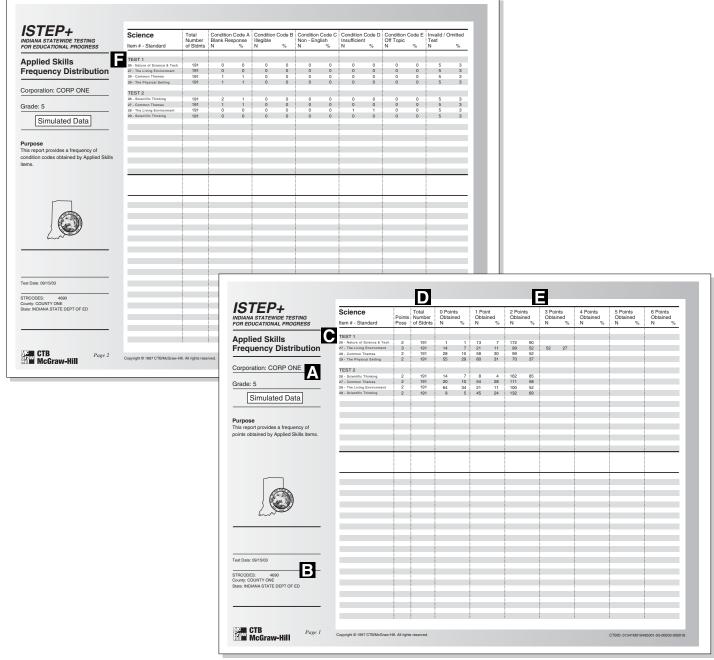


Highlights of the Disaggregation Summary Report

- A Identifies the corporation and grade.
- **B** Indicates the test date and identifies the corporation number, county, and state.
- **C** Identifies the student subgroups.
- **D** Lists the total number of students.
- E Indicates the number and percentage of students who obtained Pass+, Pass, or Did Not Pass scores or who were Undetermined. The Total Passing column indicates the total number of students in the Pass+ and Pass columns.
- Indicates the median scale scores. (Not computed for groups with fewer than 10 students.)
- **G** Indicates the lowest and highest scale scores obtained.

Applied Skills Frequency Distribution

The Applied Skills Frequency Distribution report presents, at the corporation level, the number and percentage of students who obtained each score point for the individual Applied Skills items. This information can be used to determine if the students in your corporation show strengths or needs on specific Applied Skills items and, therefore, in the Academic Standards that are assessed by these items.



Highlights of the Applied Skills Frequency Distribution

- A Identifies the corporation and grade.
- **B** Indicates the test date and identifies the corporation number, county, and state.
- Identifies the item number and the standard(s) being scored. Descriptions of each item, along with scoring rubrics and standards, are found in the *ISTEP+Teacher's Scoring Guide*.
- **D** Lists the total number of students tested in the corporation.
- **E** Lists the number and percentage of students obtaining each score point.
- **E** Lists by condition code the number and percentage of students who did not receive a score.

Condition Codes

A = Blank/no response

B = Illegible/unable to score

C = Written predominantly in language other than English/unable to score

D = Insufficient response/unable to score/copied from text

E = Response not related to test question or scoring rule

Note: All condition codes convert to 0 points obtained.

Undetermined Status Roster

This report provides a list by school of all students in the corporation who have an Undetermined status. Students who fail to complete one or more of the tests are listed as Undetermined. The report indicates whether the test was not taken or was invalidated, thus explaining the reason for the Undetermined status.

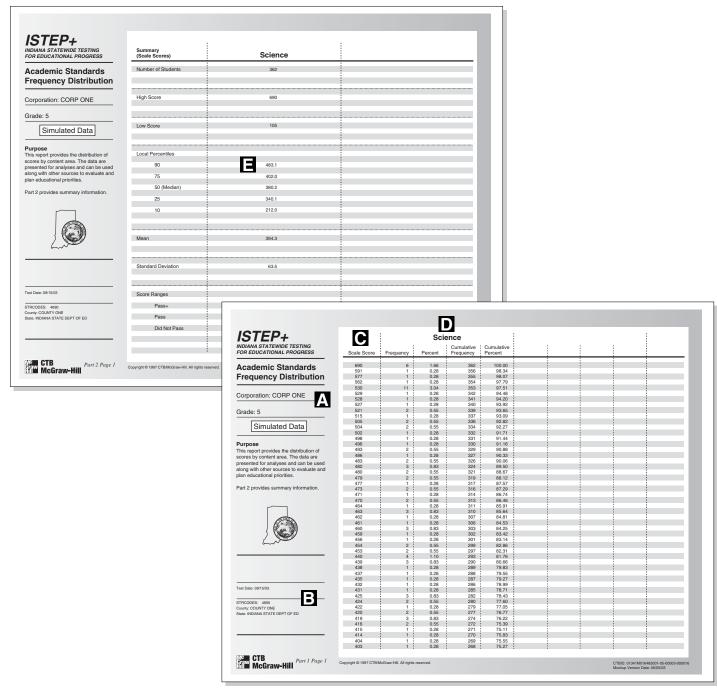
ISTEP+ INDIANA STATEWIDE TESTING	B			Science			······································	: :	 	
R EDUCATIONAL PROGRESS	Students	Undetermined in Category	T1 - MC, OE	T2 - MC, OE						
hool: SCHOOL ONE	BRADFORD, NELL S Birthdate: 2/11/93 Special Codes Student ID Other (K-T) 51.182	Science Undetermined	Test not taken*	Test not taken*						
Grade: 5 Simulated Data Purpose This report provides a list of students with an undetermined status and a reason for that status. This list should be used to aid in the explanation of the undetermined status codes.	JACKSON, NOAH E Birthdate: 3/ 7/92 Special Codes Student ID Other (K-T)0683	Science Undetermined	Test not taken*	Valid Attempt						
	QUEAR, CHASTITY D Birthdate: 6/18/92 Special Codes Student ID Other (K-T) 11.682	Science Undetermined	Valid Attempt	Test Inv.*						
	THOMPSON, MICHAEL G Birthdate: 7/10/92 Special Codes Student ID Other (K-T) 11.582		Test not taken*	Test not taken*						
Date: 09/15/03										
CODES: 4960-3333 vration: CORP ONE ty: COUNTY ONE INDIANA STATE DEPT OF ED	WO M With the train	05.0				0.1				
	MC: Multiple-choice items *Note: Test not taken or Test	OE: Open-ended t Inv. results in an U		nv.: Test In	ralidated by	/ School				

Highlights of the Undetermined Status Roster

- A Identifies the school and grade.
- **B** Lists students alphabetically who have an Undetermined status.
- **C** Indicates which test was invalidated or not completed.
- **D** Indicates the test date and identifies the corporation-school number, corporation, county, and state.

Academic Standards Frequency Distribution

The Academic Standards Frequency Distribution report provides the corporation administrator with the distribution of scale scores achieved by all the students tested in the corporation. The data are presented for analysis and can be used, along with other resources, to evaluate and plan educational priorities.



Highlights of the Academic Standards Frequency Distribution

- A Identifies the corporation and grade.
- **B** Indicates the test date and identifies the corporation number, county, and state.
- **C** Lists the scale scores achieved.
- **D** Shows the number and percentage of students who obtained each scale score.
- E Indicates the scale scores achieved by students at five local percentiles (90, 75, 50, 25, and 10).

Reference

Glossary

Criterion-Referenced Test

A test that reports students' scores relative to the Indiana Academic Standards.

Cut Scores

Cut scores are scale scores that separate and define the performance levels. The cut scores define three general levels of knowledge and skill as follows:

Pass+: The student who scores at or above the cut score in science and is high achieving in this subject.

Pass: The student who scores at or above the cut score in science and demonstrates proficiency in this subject.

Did Not Pass: The student who scores below the cut score and in all likelihood needs remedial assistance to be successful at the current grade level.

In addition, a category referred to as *Undetermined* is for learners whose *ISTEP+* scores for science are incomplete. For these students, all or a part of the test was not taken or was considered invalid by the examiner.

Indiana Academic Standards

To promote student academic achievement, the State Board of Education has adopted challenging standards. These standards are defined by a description of what a student should know and be able to do at the grade level completed by the student during the previous school year. The standards for science include The Nature of Science and Technology, Scientific Thinking, The Physical Setting, The Living Environment, The Mathematical World, and Common Themes.

Indiana Performance Index

The Indiana Performance Index (IPI) is an indication of a student's performance on the individual Academic Standards that are measured by *ISTEP+*. It represents the expected number of items that the student would have answered correctly if the student had taken 100 similar items for the specific Academic Standard.

Indiana Scale Score

Student achievement levels relative to the Indiana Academic Standards are reported by *ISTEP+* scale scores. These three-digit, equal-interval scores are expressed on a unique scale.

Mean

The mean is the arithmetic average of a group of scores. It is calculated by adding the scores and dividing the sum by the number of scores.

Median

The median is defined as the score below which 50% of the cases fall. The median and the 50th percentile are the same.

Glossary

Number Correct Scoring

A scoring procedure that involves adding up students' scores on the test questions in a test.

Pattern Scoring

A procedure for assigning students' scale scores that involves considering the pattern of students' scores on the questions in a test as well as certain statistical characteristics of the questions.

Performance Levels

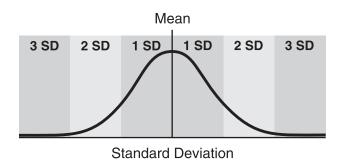
For the Science Assessment, student achievement is reported in terms of three performance levels: Pass+, Pass, and Did Not Pass.

Raw Score

A student's observed score on a test, i.e., the number correct. While raw scores do have some usefulness, they should not be used to make comparisons between performance on different tests, unless other information about the characteristics of the test is known.

Standard Deviation (SD)

A statistic that indicates the amount of variability in a group of scores. When scores are normally distributed (i.e., when they are part of a bell-shaped, "normal" curve), about two-thirds of the scores are within one SD above and below the average (mean) score, and about 95% of scores are within two SDs of the mean. In almost any shaped distribution, all scores will be within five SDs of the mean score.



Standardized Test

A test administered in accordance with explicit directions for uniform administration.

Sample Letter to Parents

Dear Parent:

This past fall, students in Grade 5 participated in the Indiana Statewide Testing for Educational Progress (*ISTEP+*). A copy of your child's Student Report for science is enclosed for your review.

The front of the Student Report shows how your child did compared to the Indiana Academic Standards. The standards are the required skills that schools must teach to their students. This report shows whether your child scored at the Pass+, Pass, or Did Not Pass performance level on the Science Assessment. The report also shows how your child did on each of the science standards.

A student who scores in the Pass+ or Pass performance level exceeds or meets the cut scores in science. A student who scores in the Did Not Pass performance level may require remedial assistance in order to be successful at the current grade.

The back of the Student Report shows how your child did on each of the Applied Skills items. These are the questions that require students to write a paragraph or write the answer to a question instead of simply choosing the answer. Your child's answers to these Applied Skills items are also available for your inspection at school.

Your child's school is the best source of information if you have questions about your child's *ISTEP+* scores.

Sincerely,

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Guide to Test Interpretation Grade 5 Science



Indiana Department of Education